

Agendum  
Oakland University  
Board of Trustees Formal Session  
November 5, 2008

**ACCEPTANCE OF GRANTS AND CONTRACTS TO OAKLAND UNIVERSITY  
FOR THE PERIOD OF AUGUST 1 THROUGH SEPTEMBER 30, 2008**

**A Recommendation**

1. **Division and Department:** Academic Affairs/Office of Grants, Contracts and Sponsored Research

2. **Introduction:** Oakland University contributes to our national agenda as a contributor to the nation's scientific and technological progress, both through the generation of new knowledge and ideas and the education and training of its students. Grants and contracts awarded to Oakland University play a critical role in the advancement of new research findings, and current research trends gives emphasis to inter-disciplinary, technology-driven, and product-oriented team efforts.

The Board of Trustees (Board) has authorized the President, or his or her designee, to receive and acknowledge grants and contracts to the University, but such grants and contracts must be reported to the Board not less often than quarterly for acceptance on behalf of the University.

At this time, we request that the Board accept the grants and contracts reported on the attached Grants and Contracts Report, Attachment A, for the period August 1 through September 30, 2008.

3. **Previous Board Action:** The Board accepts grants and contracts to Oakland University on a regular basis at its Formal Sessions.

4. **Budget Implications:** Grants and contracts contribute to the University through the recovery of direct and indirect expense incurred in support of research projects.

5. **Educational Implications:** Grants and contracts enhance the training and education of students.

6. **Personnel Implications:** Grants and contracts awards may provide salary support for faculty, post-doctoral fellows, undergraduate and graduate students, technicians, lab managers, and other personnel, as required by the funded research project or program.

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August 1 through September 30, 2008  
Oakland University  
Board of Trustees Formal Session  
November 5, 2008  
Page 2**

7. **University Reviews/Approvals:** All grants and contracts are reviewed by the Office of Grants, Contracts and Sponsored Research prior to submission to the Board to ensure compliance with federal and state laws and regulations and University policies and procedures, when applicable, and with assistance from the Office of Legal Affairs when requested.

8. **Recommendation:**

RESOLVED, that the Board of Trustees accept grants and contracts to Oakland University identified in the attached Grants and Contracts Report, Attachment A, for the period of August 1 through September 30, 2008.

9. **Attachments:** A. Grants and Contracts Report.

Submitted to the President  
on \_\_\_\_\_, 2008 by

\_\_\_\_\_  
Virinder K. Moudgil  
Senior Vice President for  
Academic Affairs and Provost

Recommended on \_\_\_\_\_, 2008  
to the Board for approval by

\_\_\_\_\_  
Gary D. Russi  
President

## OAKLAND UNIVERSITY

## GRANTS AND CONTRACTS REPORT

Aug/Sept 2008

Principal Investigator	Awarding Agency	Title and Project Abstract	Award Amount	Total Award All Years
John Seeley Chemistry Department	Foster-Miller	<b>Subcontract on Foster-Miller's Mobile Air Zone Extractor Project.</b> We will characterize existing materials for sampling atmospheric chemical compounds and develop new desorption approaches. This work will aid in the production of accurate and fast techniques for monitoring the chemical composition of the atmosphere.	\$ 66,680	\$ 66,680
Shravan Chintala Eye Research Institute	Vision Research Foundation	<b>Treatment of Age-related Macular Degeneration by Engineered Stem Cells.</b> Age-related Macular Degeneration (AMD) is a leading cause of blindness in the US for which treatment options are very limited. Completion of the proposed studies will advance our understanding of protecting the retina and perhaps regenerating the retina.	\$ 7,500	\$ 22,500
Daniel Aloï Electrical and Computer Engineering Department	National Science Foundation	<b>Acquisition of Automotive Antenna Measurement Instrumentation (AAMI).</b> The AAMI will be utilized to conduct research in the area of electromagnetic modeling, measurement, and design of antennas onto an automotive platform.	\$ 6,315	\$ 406,315
Ka Cheok Electrical and Computer Engineering Department	Battelle	<b>Ultra Wide-Band (UWB) Tracking of Multiple Robots.</b> This project is to conduct studies on ultra-wideband (UWB) range radios and UWB local positioning systems (LPS). The UWB range and LPS will be examined in the light real-time tracking of designated objects including mobile robots, vehicles, personnel and assets.	\$ 65,002	\$ 65,002
Zissimos Mourelatos Mechanical Engineering Department	University of Michigan	<b>Time-Variant Reliability-Based Optimization for Lifecycle Cost Reduction.</b> This project is to develop a new reliability-based, time-variant system optimization method, in order to reduce lifecycle and warranty cost. Apply developed methodologies to powertrain and vehicle design.	\$ 75,000	\$ 307,280

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Hongwei Qu Electrical and Computer Engineering Department	Michigan Universities Commercialization Initiative (MUCI)	<b>Development of Wafer-level Microfabrication Technology for CMOS-MEMS Sensors and Actuators.</b> The objective of this research is to develop and commercialize high performance CMOS-MEMS integrated sensors and actuators enabled by the proposed integration technology. Integrated accelerometers will be prototyped and patents on the demonstrated process will be filed.	\$ 60,676	\$ 60,676
Hongwei Qu Electrical and Computer Engineering Department	Octillian Corporation	<b>Application of Nanoparticles to Solar Cells.</b> This project is to perform proof-of-concept studies on nanoparticles used as a potential photovoltaic material. Nanoparticles photovoltaic device will be fabricated and prototyped. Optical emission spectrum of the nanoparticles will be studied and the yield and capability of scale-up fabrication processes will be evaluated.	\$ 268,066	\$ 268,066
Gopalan Srinivasan Department of Physics	University of Illinois, Chicago	<b>Active Multiferroic Nanostructures.</b> We propose to develop nanostructures of artificial multilayered multiferroic materials to achieve increased functionality in advanced nano-devices. The objective is to make mechanically coupled piezoelectric and magnetostrictive films on various substrates.	\$ 44,500	\$ 133,500
Brian Sangeorzan Department of Mechanical Engineering	Ford Motor Company	<b>Calibration of AMESim Piston Thermal Model.</b> The goal of this research is to refine an existing Ford engine thermal model, and then calibrate the model using empirical data. This will provide a predictive tool to minimize the possibility of piston damage in turbocharged engines.	\$ 12,000	\$ 12,000
Andrei Slavín Department of Physics	TACOM	<b>Influence of Thermal Noise on the Performance of Nano-sized Spin-Torque.</b> This project is to develop a quantitative stochastic theory of operation of nano-sized spin-torque microwave oscillators under the action of thermal noise. This will lead to the development of noise-stable nano-sized microwave generators, amplifiers and other active elements with controlled polarization of electromagnetic waves for use in military and space-oriented nano-electronics.	\$ 70,000	\$ 70,000

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Keyu Li Mechanical Engineering Department	United States Army	<i>Residual stress measurement and study on armor ceramic tiles to improve mechanical performance. This project is to perform residual stress testing on fabricated parts which can lead to methods that reduce tensile residual stresses and cracking failures.</i>	\$ 98,000	\$ 98,000
Daniel Aloï Electrical and Computer Engineering Department	Chrysler LLC	<i>Phase 2: System-Level Model Development for Car Finder at 2.4 GHz. The objective of this proposal is to create a system-level model of the "Car Finder" to assess the performance of the single-channel pseudo-doppler direction-finding algorithm. The results of this work will be utilized in a future feature on Chrysler vehicles.</i>	\$ 78,877	\$ 78,877
Xia Wang Mechanical Engineering Department	Michigan Universities Commercialization Initiative	<i>Investigation of a New Composite Material for PEM Fuel Cell Bipolar Plates. The objective of this research is to develop proof of concept and commercialization plans for new elastic composite bipolar plate materials and eliminate the need for gasket materials between the bipolar plates and the MEA for sealability of the fuel cells.</i>	\$ 62,087	\$ 62,087
<b>Total</b>			<b>\$ 914,703</b>	<b>\$ 1,650,983</b>